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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,045	09/29/2003	Jung-Tao Liu	LIU-24/2100.004200	2585

7590 05/29/2008  
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EXAMINER
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ALAM, FAYYAZ

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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05/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/674,045	<b>Applicant(s)</b> LIU, JUNG-TAO	
	<b>Examiner</b> FAYYAZ ALAM	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is in response to applicant's amendment/arguments filed on 3/11/2008 . **This action is made FINAL.**

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 17 have been considered but are moot in view of the new ground(s) of rejection.

Therefore, rejection of claims 1 - 27 still stands.

Please see rejections of claims 1 and 17.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tiedemann et al. (USPN 6,982,971)** in view of **Terasawa (USPN 6,456,606)**.

Consider **claims 1 and 17**, Tiedemann et al. disclose a method of synchronizing signals associated with multiple asynchronous base stations during soft handoff (see abstract; see col. 11, lines 58 - 62), comprising: MS establishing link (read as communicating) with BTS1 (read as first base station) and BTS2 (read as second base station) using same frame offset (read as first synchronizing signal) used by BTS1 while in the handoff region (see col. 10, lines 4 - 10; col. 10, line 65 - col. 11, line 5; col. 11, lines 21 - 23; see fig. 1A); first and said at least one second base station asynchronous with each other (see col. 11, lines 58 - 62); communicating with BTS 1 and BTS2 (read as concurrently with a plurality of base stations including first base station) during handoff using the same frame offset (read as first synchronization signal); and communicating with BTS2 using the adjusted reverse link demodulation timing (read as second synchronization signal) after handoff direction message is sent (read as after the handoff period) (see col. 11, lines 28 - 38).

However, Tiedemann discloses all the limitations but does not explicitly discloses receiving, at the base station and from at least one radio network controller, information indicative of at least one second synchronization signal associated with at least one second base station.

In the related field of endeavor, Terasawa discloses network controller (read as radio network controller) transmitting neighbor list including PN offsets (read as second

synchronizing signal) to base stations 40B and 44 (read as second base station) that are in soft handoff (see col. 12, lines 8 - 14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Terasawa in order to provide efficiency and reduce processing time during the hand off process.

**Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tiedemann et al. (USPN 6,982,971)** in view of **Terasawa (USPN 6,456,606)** and further in view of **Indirabhai (USPN 2003/0040328)**.

Consider **claim 17**, Tiedemann et al. disclose a method of controlling a mobile device associated with multiple asynchronous base stations during soft handoff (see abstract; see col. 11, lines 58 - 62), comprising: MS establishing link (read as communicating) with BTS1 (read as first base station) and BTS2 (read as second base station) using same frame offset (read as first synchronizing signal) used by BTS1 while in the handoff region (see col. 10, lines 4 - 10; col. 10, line 65 - col. 11, line 5; col. 11, lines 21 - 23; see fig. 1A); first and said at least one second base station asynchronous with each other (see col. 11, lines 58 - 62); communicating with BTS 1 and BTS2 (read as concurrently with a plurality of base stations including first base station) during handoff using the same frame offset (read as first synchronization signal); and communicating with BTS2 using the adjusted reverse link demodulation timing (read as second synchronization signal) after handoff direction message is sent (read as after the handoff period) (see col. 11, lines 28 - 38).

However, Tiedemann discloses all the limitations but does not explicitly disclose receiving, at the base station and from at least one radio network controller, information indicative of at least one second synchronization signal associated with at least one second base station.

In the related field of endeavor, Terasawa discloses network controller (read as radio network controller) transmitting neighbor list including PN offsets (read as second synchronizing signal) to base stations 40B and 44 (read as second base station) that are in soft handoff (see col. 12, lines 8 - 14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Terasawa in order to provide efficiency and reduce processing time during the hand off process.

However, Tiedemann as modified by Terasawa does not explicitly disclose retaining the first synchronizing signal in memory of said at least one second base station for later synchronizing communications between the mobile unit and at least one of the first base station and the at least one second base station.

In the related field of endeavor, Indirabhai discloses storing offset information (read first synchronizing signal) in memory 802 of the master device (read as second base station) for later synchronizing communications between the slave device (read as mobile unit) and old master device (read as at least one of the first base station) and the new master device (read as at least second base station) (see figs. 2 and 8; [0059; 0011]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann and Terasawa with the teachings of Indirabhai in order to provide efficiency and reduce processing time during the hand off process.

**Claims 2 - 13 and 18 - 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tiedemann et al. (USPN 6,982,971)** in view **Terasawa (USPN 6,456,606)/Indirabhai (USPN 2003/0040328)** (*if claim is dependent on claim 17*) and further in view of **Blackeney II et al. (U.S. Patent # 5,267,261)**.

Consider **claims 2 and 18** as applied to claims 1 and 17, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses synchronization signals being transmitted from the base stations in the active set and received at the mobile station, where the mobile station is in communication with at least one base station (read as first synchronizing signal is delivered from a first base station to mobile device; see col. 3, lines 45 - 68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann and Terasawa with the teachings of Blackeney in order to perform handoff.

Consider **claims 3 and 19** as applied to claims 1 and 17, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses when there is only one base station remaining in the active set the mobile station is in communication with that base

station and is therefore no longer in the hand off period and is inherently synchronized with the one remaining base station (read as the second synchronizing signal is delivered from a second base station to a mobile device see col. 4, lines 31 - 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claims 4 and 20** as applied to claims 1 and 17, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses the mobile station monitors and receives pilot signals (read as signals reflecting parameters of communication) from multiple base stations while in communication with at least one base station (read as receiving signals reflecting parameters of communication between a mobile device and a second base station; see col. 3, lines 45 - 68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claims 5, 6, and 21** as applied to claims 4 and 20, respectively, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses communication between a mobile station and a system controller via said at least one base station in communication where when a pilot signal of a base station exceeds a preset threshold it is eventually added to an active set and all the base stations in the active set are



allowed to communicate with the mobile station. The mobile station is now in hand off period since there are more than one base stations in the active set (read as the hand off period is initiated in response to the parameters of communication between the mobile device and the second base station and the second base station is added to an active set associated with the mobile device, wherein each base station in the active set is permitted to communicate with the mobile device; see col. 3, lines 45 - 68; col. 4 lines 31 - 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claim 7** as applied to claim 6, Tiedemann fails to disclose said claim.

In the related field of endeavor, Blackeney discloses the system controller communicates the active set to the mobile station (see col. 3, lines 45 - 68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claims 8, 9, 10, 22, and 23** as applied to claims 1, 8, 9, 17 and 22, respectively, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses the at least one base station used for communication is in the active set where the pilot signals (read as receiving signals reflecting parameters of communication) of all the base stations are monitored and therefore when the pilot signal of that at least one base station (read as first base

station) drops below a preset threshold, communication with that at least one base station (read as first base station) is terminated and it is removed from the active set while communication with remaining base stations in active set continues. If there were only two remaining base stations including the at least one base station (read as first base station) in the active set, communication is established with the remaining base station which results in a termination of the hand off period (read as receiving signals reflecting parameters of communication between a mobile device and a first base station and the hand off period is terminated in response to the parameters of communication between the mobile device and the first base station and the first base station is removed from an active set associated with the mobile device, wherein each base station in the active set is permitted to communicate with the mobile device; see col. 3, lines 45 - 68; col. 4 lines 1 - 14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claim 11** as applied to claim 10, Tiedemann fails to disclose said claims.

In the related filed of endeavor, Blackeney discloses communicating the active set to the mobile station (see col. 4, lines 15 - 30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claims 12 and 24** as applied to claims 1 and 17, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses communication of at least one base station (read as first base station) with the mobile station, therefore, the mobile station is synchronized with said base station (read as first synchronized signal). When there exists more than two base stations in the active set, the communication to the network is always carried out through the at least one base station from the mobile station. Therefore, communication to system controller in regards to adding base stations (read as second and third base stations) to an active set, based on pilot signal strength is carried out by the at least one base station (read as first base station) and thus first synchronizing signal is used during a hand off period (see col. 3, lines 45 - 68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

Consider **claims 13 and 25** as applied to claims 12 and 24, Tiedemann fails to disclose said claims.

In the related field of endeavor, Blackeney discloses removing base stations from the active set and terminating communications with the removed base stations once pilot signals from base stations drop below a preset threshold. Therefore, once all the base stations are removed from the active set except for one, the hand off period is terminated and communication with other base stations is terminated as well and the mobile station is communicating using synchronizing signal from the last remaining

base station (read as communicating from the second base station to the mobile device using signals synchronized with a second synchronizing signal after the hand off period further comprises communicating from the second base station to the mobile device using signals synchronized with the second synchronizing signal in response to communications with both the first and third base stations being ended; see col. 4, lines 1 - 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann with the teachings of Blackeney in order to perform handoff.

**Claims 14, 15, 26, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tiedemann et al. (USPN 6,982,971)** in view of **Terasawa (USPN 6,456,606)** and further in view of **Blackeney II et al. (U.S. Patent # 5,267,261)**.

Consider **claim 14, 15, 26, and 27** as applied to claims 13, 25, and 24, respectively, Tiedemann fails to disclose communicating from the second base station to the mobile device using signals synchronized with the second synchronizing signal in response to communications with the first base station and then the third base station being ended and communicating from the second base station to the mobile device using signals synchronized with the second synchronizing signal in response to communications with the third base station and then the first base station being ended.

Nevertheless, an active set comprise of base stations for potential hand off during a hand off period. Removing and terminating communication with a particular base station is a matter of what sort of priority the base stations are arranged in, in the

active set. They can be arranged according to the strongest pilot signal, time of reception, etc. Therefore, removing a base station from an active set and terminating communications with it first as opposed removing and terminating communications with another base station is merely a matter of design choice according to the prioritization of the active set.

**Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tiedemann et al (USPN 6,982,971)** in view of **Terasawa (USPN 6,456,606)** and further in view of **Blackeney II et al. (U.S. Patent # 5,267,261)** and further in view of **Sekine et al. (U.S. Application # 2001/0024429)**.

Consider **claim 16** as applied to claim 1, Tiedemann as modified by Blackeney fails to disclose a second base station retaining in memory the first synchronizing signal.

In the related field of endeavor, Sekine et al. disclose in a soft handover procedure transmitting a phase difference offset (OFS 1) (read as first synchronization signal) to base station (104) (read as second base station). Therefore, the OFS 1 signal would be stored in the base station (104) (read as a second base station retaining in memory the first synchronizing signal; [0069 - 0073]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Tiedemann and Blackeney with the teachings of Sekine et al. in order to provide efficiency in time by fast acquisition of synchronization information and avoid loss of data with unsynchronized base stations.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Fayyaz Alam*

May 15, 2008

/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618